out any particular ecological significance. A conjecture that Carpenter's name *acutior* might also refer to this species is proved incorrect by examination of a photograph of the type kindly furnished by the U. S. National Museum. This shows the riblets on the lateral areas and anterior valve being formed of rather distant tubercles, which is not the case in *decipiens*.

Los Angeles Museum, Los Angeles, California,
March 14, 1935.

FERRISSIA IN THE LAKE REGION OF IOWA

BY B. SHIMEK

Three species of *Ferrissia* have thus far been recognized in the lake region centering in the Okoboji Lakes and Spirit Lake in northwestern Iowa, namely, *rivularis, fusca* and *parallela*.

Of these species *F. rivularis* (Say) has been found only in the Little Sioux and Des Moines Rivers, between which the lakes lie. Here it is found only in moderate numbers, on stones, mussel-shells and (more rarely) on sticks, in rather shallow water.

The remaining two species seem to have been confined to the lakes, though *F. fusca* rarely appeared in the larger kettleholes.

In more than 40 years of periodic field work in this region, the writer has found these two species in notable numbers in but one place, and under such peculiar circumstances that the case seems worthy of record.

All the larger lakes of this region drained into the Little Sioux River, a tributary of the Missouri, and the Okobojis and the Gar Lakes still form a connected system. Prairie Lake, a small lake to the east of the Gar Lakes, drains into the lower part of Lower Gar Lake by a small creek. The lake is rather shallow in the vicinity of the mouth of the creek, and formerly contained large beds of rushes (*Scirpus validus*) in the shallower parts, and also somewhat broken or scattered irregular beds of the yellow pond-lily (*Nymphaea advena*) where the water reached a depth of two or three feet. In some places these beds were somewhat intermingled, but in the main they were rather distinct. It may be of incidental interest to note that during August, in the deeper parts of the rush-beds, the muskrats, formerly very abundant in

this place, cut many of the rushes just above the water, or at the water-level, and built flat platforms of them on the "stumps" for their young.

The mollusks of this bed were first studied on the 25th of August, 1916, when about 450 specimens of *F. fusca* (C. B. Ad.) and only 7 specimens of *F. parallela* (Hald.) were collected. These specimens were all taken along the outer margin of the *Nymphaea* beds in slightly deeper water, and all were living. They occupied much the same position noted below, excepting that a very few of the *F. fusca* extended even to the lower surfaces of the leaf-blades.

Six days later, a day was spent in a more careful study of these beds, the petioles (and in a few cases the flower-stalks) being pulled at intervals all over the beds, but well within the margin. The result was that about 250 specimens of *F. fusca* and about 150 specimens of *F. parallela* were collected during the day, but much the greater part of the field remained undisturbed.

Both species occurred quite frequently in a constant relative position, *F. parallela* uniformly occupying the lowest part of the petiole within about four or five inches of the fine silt of the bottom, and *F. fusca* collecting on the next foot above, but chiefly on its lower six inches.

Both species were found chiefly on the petioles of older leaves, or (less commonly) on the few flower-stalks, and, in the great majority of those examined, both were found on the same petiole, though in unequal numbers. In no case, however, were they mingled, each keeping within its zone. In a few cases, only one (either one) of the species appeared on a petiole, and then in small numbers.

Many stems of the *Scirpus* were also pulled up, especially where they were somewhat mingled with, or at least near, the *Nymphaea,* but *not a single specimen of either species of Ferrissia was found* upon them!

This was the last visit possible during that season, but the writer expected to make a study of the causes of this peculiar distribution of the limpets during the following seasons, to determine if there was anything attractive or repellent in the plants involved; if they offered different food values; if the unequal mingling of the fresh water of the creek with the, even then, some-

what polluted water of the lake was responsible; or if some less obvious cause operated. The investigation of the winter condition was also contemplated, but a return to the lakes for a longer period was not possible until 1918, and by that time distinct changes had taken place. The pond-lily bed had been greatly reduced; only three living specimens of *F. parallela* were found just opposite the mouth of the creek; no living *F. fusca* remained; and the contemplated observations could not be carried on. Only a few dead shells were dredged from the mud of the bottom. It was evident that the lake had been greatly polluted, a condition which has since grown still worse, and the creek, moreover, had been polluted by stock.

Three efforts were made subsequently, one in 1928, another in 1932, and still another in 1934, but no more living Ferrissias were found, and, as noted in another article, all molluscan life had been destroyed in the lake by sewage-pollution.

During all the years of field experience in this region, the writer has found but few specimens of *F. fusca* at any other point, and only a single additional *F. parallela,* dead and bleached, was dredged in Millers Bay, some years ago, near a small bed of *Nymphaea,* now also extinct.

Elsewhere in Iowa *F. rivularis* seems to be confined to streams, often small creeks; *F. fusca* is usually found on aquatic plants, especially *Nymphaea advena* and *Castalia,* in ponds or shallow lakes; while *F. parallela* has not been observed in any other localities than those cited. None of these Ferrissias is really common.

THE GENERIC POSITION OF PLANORBIS UMBILICATELLUS WITH THE DESCRIPTION OF A NEW GROUP OF PLANORBIDAE

BY FRANK C. BAKER

The little fresh water shell known as *Planorbis umbilicatellus* Ckll. has been considered a Gyraulus by most conchologists. In a recent paper (Proc. Phil. Acad. Sci., 86: 48, 1934), Pilsbry suggests that this species, together with others, calls for generic verification. Specimens of *umbilicatellus* from Wainwright Park, Alberta, and North Star Lake, Minn., have been examined ana-